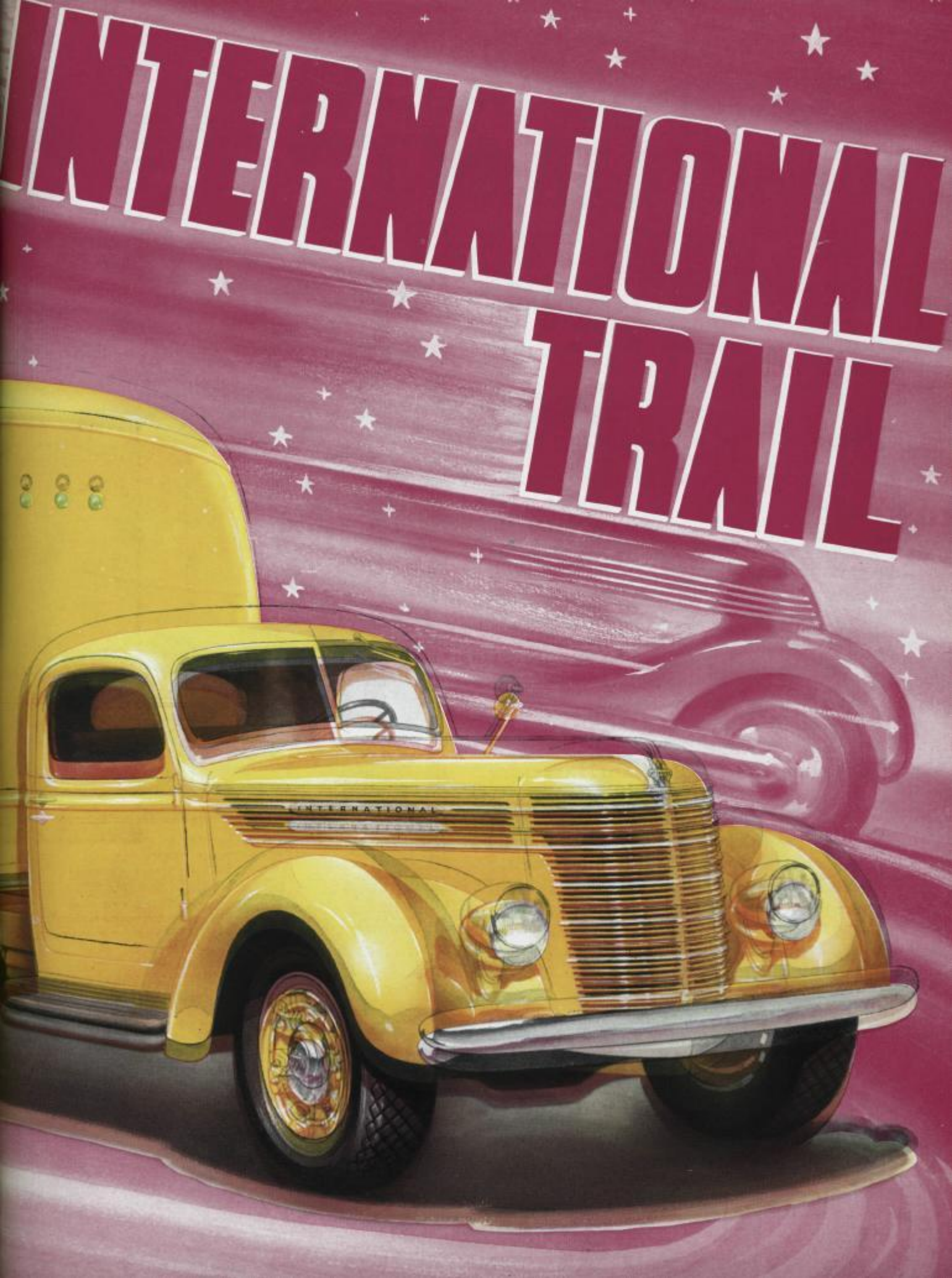
INTERNATIONAL TRAIL



THIS *and* THAT

ACHIEVEMENTS formerly considered impossible have been attained with amazing rapidity in the last few years in truck engineering and manufacture. One such achievement is the development of the complete new line of International trucks, now being introduced throughout the world.

The continuous program of research, designing, and exacting preproduction testing were in themselves tremendous tasks, not to mention the grueling tests of each part, unit, and chassis which followed day after day and week after week under all conceivable types of operating conditions.

The complete story of the step-by-step development of the new Internationals has been recorded in a sound motion picture, entitled "The New Internationals." Each Harvester branch has been supplied with a print of this film. Truck owners everywhere can now see and hear at their convenience how thoroughly engineering skill, time-tested manufacturing experience, and high-quality materials have been combined to produce the finest product ever to carry the Triple-Diamond emblem.

Here is without question an epoch-making line of trucks, a line covering the entire field of truck transportation, a line whose every model combines distinctive beauty and quality with greater economy, performance, and utility.

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RYAN B. HALL
Safety Director, Indiana Motor Traffic Association

D. F. MITZNER
Secretary, Indiana Motor Traffic Association

INTERNATIONAL TRA

Dedicated to the Wider Developme of Transportation Throughout the Wo

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S. E. Houston, Editor G. V. Johnson, Art Di

Vol. 14 April, 1937

The NEW INTERNATIONALS

OF special interest to truck users is the recent announcement that International Harvester has an entirely new line of motor trucks ranging in capacity from light delivery units to the largest six-wheeler. These new models include conventional four-wheel units, six-wheelers with both dual-drive and trailing axles, and cab-over-engine types. The complete International line consists of 27 models in 79 wheelbases with gross vehicle weights ranging from 4,400 to 62,000 pounds.

Powerful truck engines, numerous wheelbases, a variety of rear axle ratios, two-speed rear axles, and multiple-speed transmissions, especially in the heavy-duty models, permit accurate selection from every standpoint of the right truck for each specific hauling task.

These new Internationals provide universally standardized (S.A.E.) cab-to-rear-axle dimensions so vitally necessary to body interchangeability, and they also permit mounting of standard length bodies of stock sizes. Front axles are set back, and this, together with the relocation of rear axles and cabs, contributes to greatly improved load distribution, not only of body and payload but of gross weight as well. Thus loads on front and rear tires are more uniform, relieving the usually overloaded rear tires by transferring a greater portion of the load to the front tires.

Wheelbases, in conjunction with correct cab-to-rear-axle dimensions, are available to accommodate all lengths of bodies, with the ideal conditions resulting from the use of bodies in even foot-lengths. At the same time, bodies in odd foot-lengths will permit satisfactory mounting and load distribution on either the next shorter or longer wheelbase.

Many decided improvements and new features of design and construction have been incorporated in the engines of the International models. Every feature has been fully tested and proved and all contribute greatly to performance, greater power, and economy.

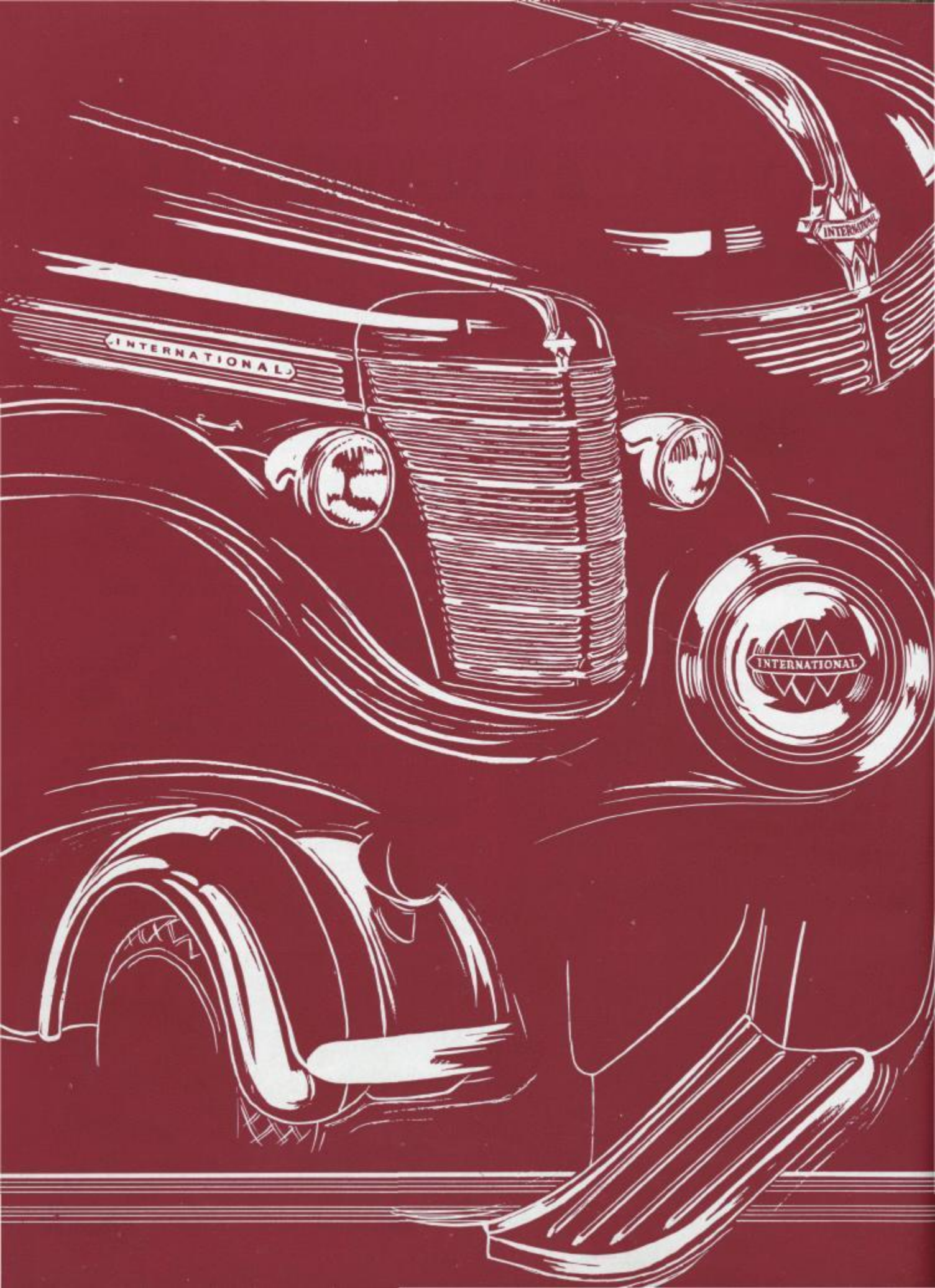
While greater power has been provided for each of the new models, there has been no sacrifice in the fuel economy. Performance, climbing ability, pulling power, and operating economy are decidedly improved.

All International truck engines are designed and built for truck service. They are heavy-duty power plants that deliver maximum performance at low cost. The types FA and FB valve-in-head engines which power the two-ton and larger Internationals have replaceable cylinders; counterbalanced, vibration-dampened crankshafts; full-pressure lubrication; precision-type, replaceable-shell, main and connecting-rod bearings; hardened exhaust-valve seat inserts; downdraft carburetion; scientifically designed manifolds; oil-bath air cleaners; air-cooled generators; and other outstanding features which provide maximum power, unexcelled performance, long life, and economy.

The HD type "L"-head engines, which power the half-ton and three-quarter-ton models, have a displace-

(Please turn to page 9)

International assembly lines, among the longest and most modern in the automotive industry, at the Company's Springfield Works, Springfield, O. Here the new light-duty International trucks are built.


INTERNATIONAL
INTERNATIONAL
INTERNATIONAL

STYLED *for* TOMORROW

SIMPLICITY and good taste are the keynotes of the sweeping streamlined styling of the new International motor trucks. In each line and curve dignity and beauty have been carefully preserved, which means that the new models will be attractive to owners and observers as long as they remain in service.

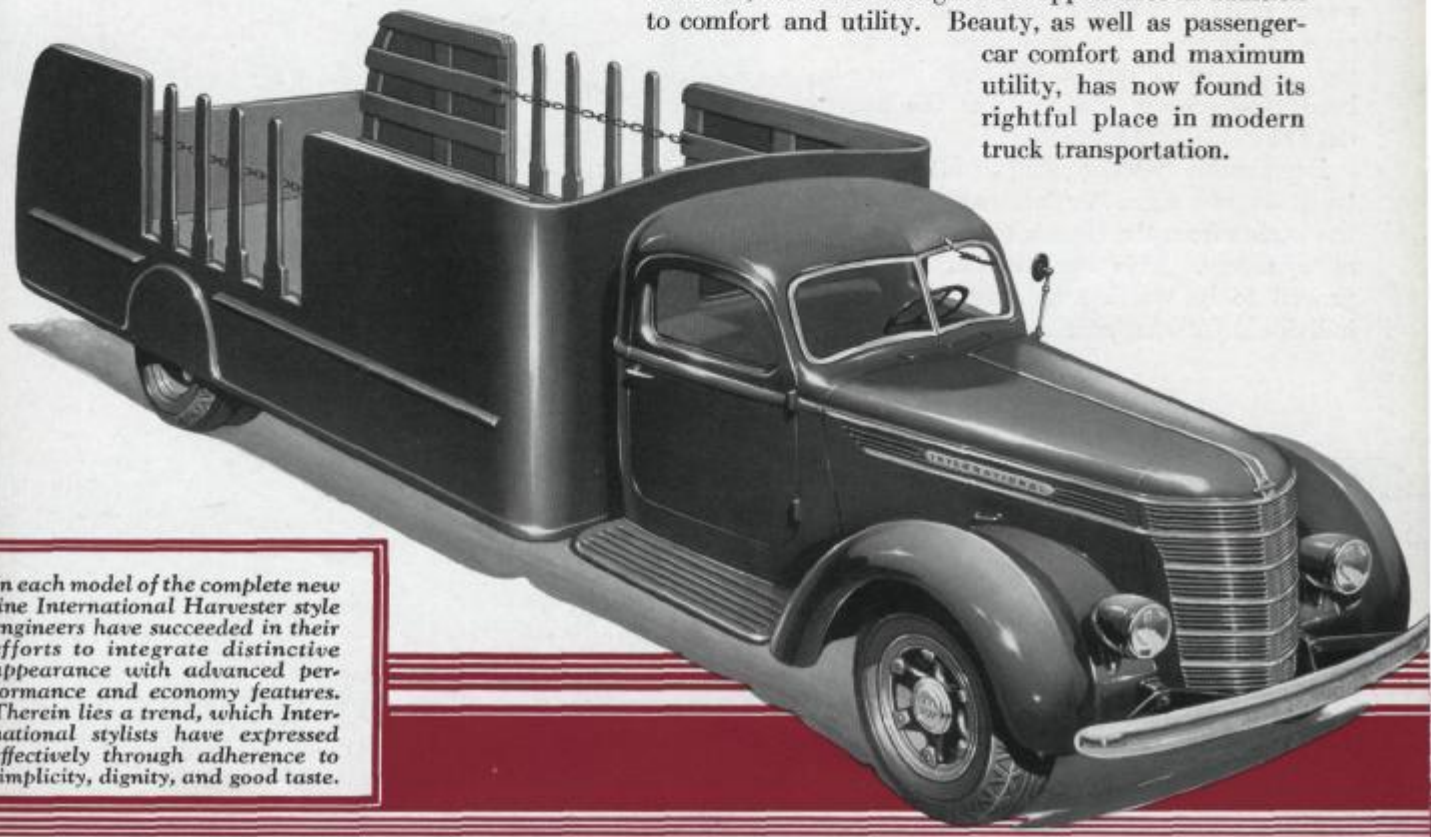
Elements of the new and distinctive styling include long, parallel louvres sweeping in almost continuous lines around hood sides and grille, accentuated by a beautiful, well-spaced trim. There is the attractively rounded grille which contributes to the sturdy, all-truck appearance, which has always been a distinctive International asset; fenders with gracefully curving skirts and creased crowns; also a sloping V-type, one-piece windshield which gives good visibility and adds to attractive appearance. Hardware, inside and out, and the well-designed instrument panel are pleasing to the eye.

Standard bodies have been designed to harmonize with the lines of the hood, fenders, and grille. Sides of the bodies are skirted to the level of the short running boards. Rear fenders, too, are of attractive, rounded and skirted type.

In the light-duty panel bodies, pressed-in moldings take the place of what might have been visible seams. The result is a smooth, decorative surface. Large, one-piece stampings take the place of what might have been many pieces welded together. The exercise of great care in designing has in that way provided definite attractiveness together with more rigid construction, which is so conducive to long life and quiet operation.

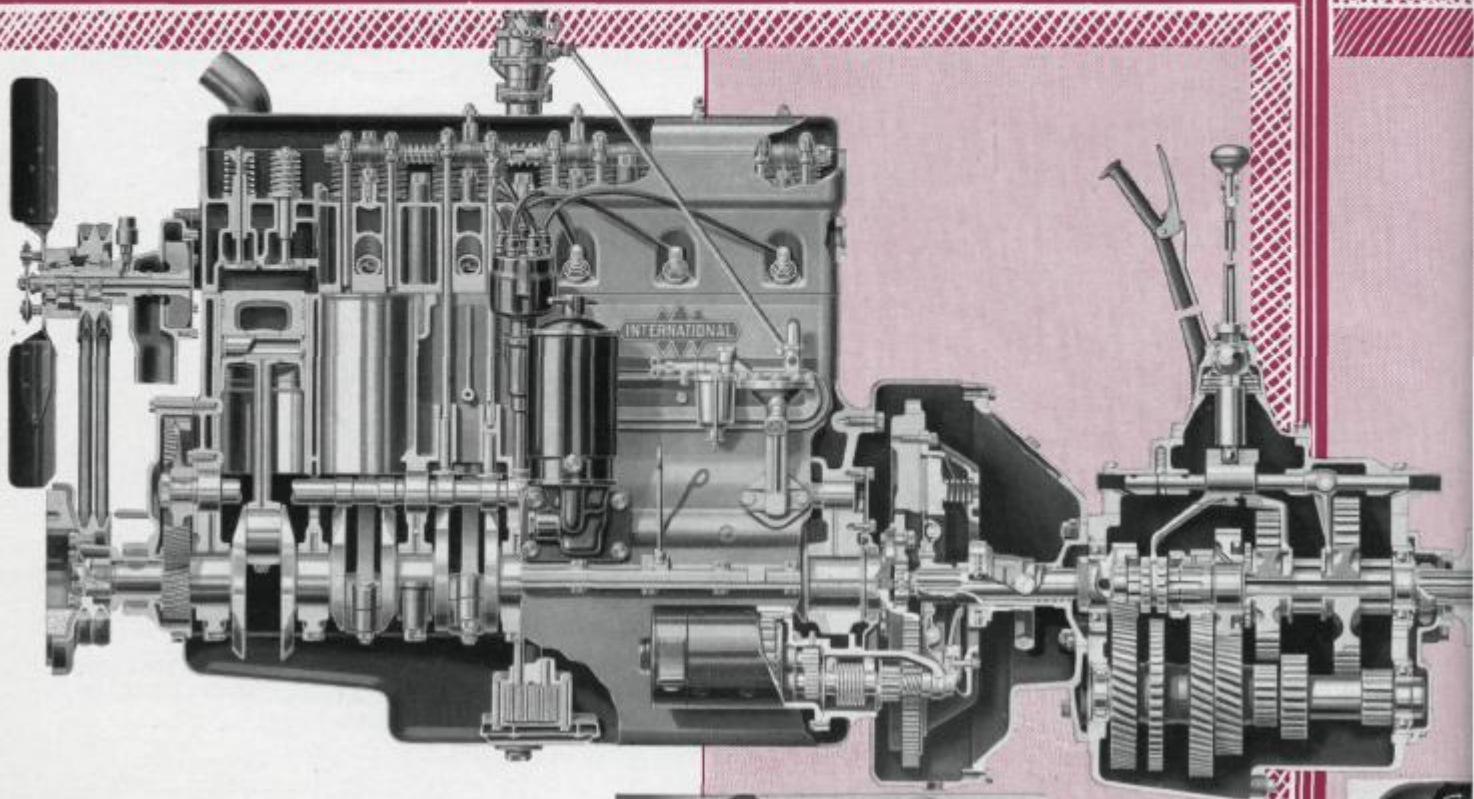
The curvature of windows and window reveals is in strict keeping with the style motif.

Interiors of cabs and panel bodies, as well as the exteriors, have been designed for appearance in addition to comfort and utility. Beauty, as well as passenger-car comfort and maximum utility, has now found its rightful place in modern truck transportation.



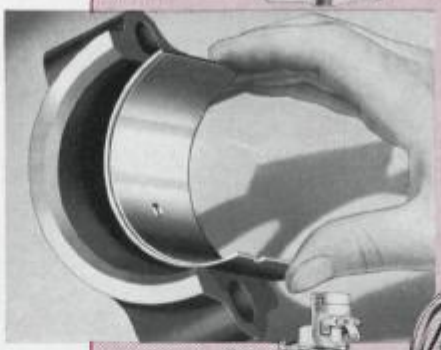
In each model of the complete new line International Harvester style engineers have succeeded in their efforts to integrate distinctive appearance with advanced performance and economy features. Therein lies a trend, which International stylists have expressed effectively through adherence to simplicity, dignity, and good taste.

GREATER POWER *and* ECONOMY



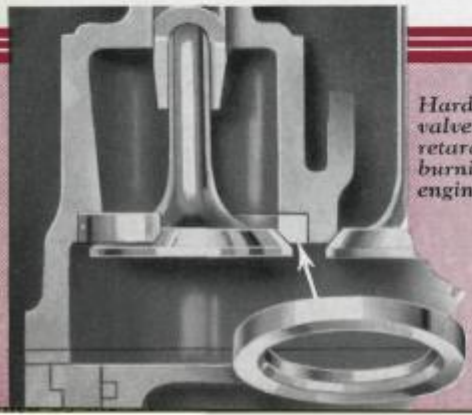
ALL International truck engines are designed and built for truck service—heavy-duty power units that deliver maximum performance at low cost. The illustration above is a sectional view of one of the large, valve-in-head type engines which power the heavy-duty models.

Replaceable cylinders, long an International truck feature, make it unnecessary to remove the engine from the chassis to replace one or all cylinders. This construction alone has proved to be worth hundreds of dollars to individual International truck owners.

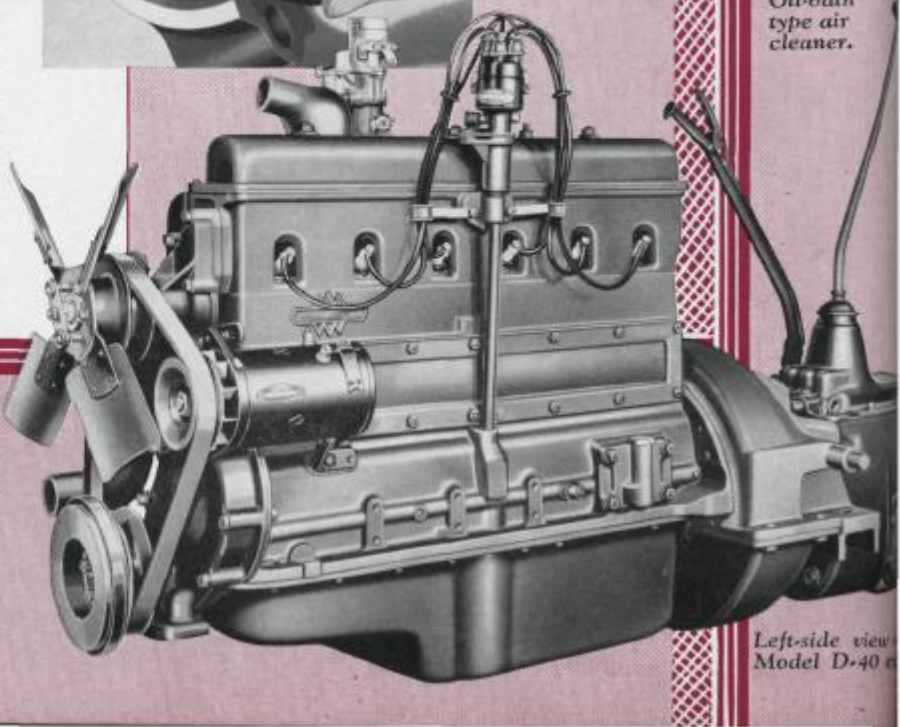


Precision-type, replaceable-shell main and connecting-rod bearings are also an economy feature in the new engines.

Oil-bath type air cleaner.



Hardened exhaust-valve seat inserts retard valve-seat burning and retain engine efficiency.



Left-side view Model D-40

THE NEW COMPLETE INTERNATIONAL LINE

Model	Wheelbases	Cab to Axle Dimensions	Rated Capacity (Tons)	Gross Vehicle Weight (Pounds)	Engine				
					No. Cyl.	Bore x Stroke	Disp.	Max. H.P.	Max. Torque
D-2	113 125	39 51	½	4,400	6	3 5/16x4 1/8	213	78	155
D-5	113 125	39 51	½	4,400	4	3¼x4	133	33	89.5
D-15	130	56	¾—1	6,500	6	3 5/16x4 1/8	213	78	155
D-30	128 155 173	57 84 102	1½	12,000	6	3 5/16x4½	232	81	170
DS-30 (2-Speed Axle)	128 155 173	57 84 102	1½	12,100	6	3 5/16x4½	232	81	170
M-3 (Milk Truck)	118		1	7,100	4	3⅝x4½	186	41.5	125
D-35	137 149 161 179	60 72 84 102	1½—2	13,000	6	3⅝x4½	241	84	175
DS-35 (2-Speed Axle)	137 149 161 179	60 72 84 102	1½—2	13,100	6	3⅝x4½	241	84	175
D-40	134 146 158 176	60 72 84 102	2—3	14,500	6	3½x4½	259	89	192
D-50	137 149 161 179	60 72 84 102	3—4	17,000	6	3¾x4½	298	93.5	218
D-60	149 161 179 197	72 84 102 120	3½—4½	20,000	6	4⅛x4½	361	111.5	268
DR-60 (Double-Reduction Axle)	149 161 179 197	72 84 102 120	4—5	20,000	6	4⅛x4½	361	111.5	268
DR-70 (Double-Reduction Axle)	149 161 179 197	72 84 102 120	4—6	24,000	6	4⅛x5	401	114	308
A-7 (Double-Reduction Axle)	160 180 200 225	72 92 112 137	5—7½	37,000	6	4½x5½	525	123	358
A-8 (Double-Reduction Axle)	160 180 200 225	72 92 112 137	7½	37,000	6	5 x5½	648	140	460
D-300 (Cab-Over-Engine Type)	99 117	84 102	1½—2	12,000	6	3 5/16x4½	232	81	170
DS-300 (Cab-Over-Engine Type) (2-Speed Axle)	99 117	84 102	1½—2	12,100	6	3 5/16x4½	232	81	170
D-186-T (Six-Wheel)	173 191	102 120	1½—3½	18,000	6	3 5/16x4½	232	81	170
DS-186-T (Six-Wheel)	173 191	102 120	1½—3½	18,000	6	3 5/16x4½	232	81	170
D-216-T (Six-Wheel)	176 194	102 120	2—4	21,000	6	3⅝x4½	241	84	175
DS-216-T (Six-Wheel)	176 194	102 120	2—4	21,000	6	3⅝x4½	241	84	175
D-246-T (Six-Wheel)	161 179 197 215	84 102 120 138	2½—5	24,000	6	3¾x4½	298	93.5	218
D-246-F (Six-Wheel)	161 179 197 215	84 102 120 138	2½—5	24,000	6	3¾x4½	298	93.5	218
D-346-T (Six-Wheel)	161 197 215	84 120 138	3½—7	34,000	6	4⅛x5	401	114	308
D-346-F (Six-Wheel)	161 197 215	84 120 138	3½—7	34,000	6	4⅛x5	401	114	308
DR-426-F (Six-Wheel)	161 215 233	84 138 156	5—8	42,000	6	4⅛x5	450	115.5	335
AR-626-F (Six-Wheel)	180 253	92 165	10—15	62,000	6	5 x5½	648	140	460

Note: T—Trailing Axle F—Dual Drive R—Double-Reduction Axle S—Two-Speed Axle

E. Watson, manager of freight operations, left, and Walter Hitchin, general freight agent, are in charge of he Burlington fleet of trucks operating out of Galesburg, Ill. The company is a subsidiary of the Burlington Railroad.

Elmer Roesener, right, secretary of Central Transfer & Storage Company, Indianapolis, and William Hancock, superintendent of maintenance, are in charge of the fleet of fifty-two trucks, thirty-five of which are Internationals.

Automotive ADMIRALS

Frank J. Adams, treasurer and general manager of Merchants Parcel Delivery, Philadelphia, directs the operation of a fleet of twenty-five motor trucks in the city and suburbs, an area of approximately 300 square miles. Mr. Adams started work for the half-century-old company as an errand boy when he was eleven. Since then he has worked in all departments and is now one of the major owners of the business.

F. T. Caldwell, chief engineer of Atlanta Laundries, Atlanta, Ga., manages the operation of equipment in the company's six plants, which are served by 252 trucks, more than 100 of which are Internationals. While in the air service overseas during the war, Mr. Caldwell piloted scout planes over the enemy lines.

Liberal in his praise of the design, construction, and performance of International trucks, Max Alex, general superintendent of Sparkletts Drinking Water corporation, Los Angeles, enjoys supervising production and delivery, the latter being entrusted to a fleet of 108 Internationals. Before coming to America Mr. Alex was chief designing engineer in a large automotive equipment plant in Germany.

by
RYAN B. HALL
Safety Director, Indiana
Motor Traffic Association

Grouped around an IMTA International safety truck are, from the left: T. V. Rodgers, president, American Trucking Association; John L. Rogers, director, Bureau of Motor Carriers, Washington, D. C.; J. F. Winchester, chairman, ATA safety committee; R. B. Hall, author of accompanying article; S. G. McAllister, president, International Harvester Company; D. F. Mitzner, IMTA secretary; and J. L. McCaffrey, director of sales, International Harvester Company. The loving cup was awarded to IMTA by ATA for the most effective safety campaign in the United States.

Seventy Million ACCIDENT-FREE MILES

IMAGINE a broad highway winding four-fifths of the distance from the earth to the sun. Close your eyes, take a deep breath and allow the realization to dawn slowly upon you that about 2,000 Indiana truck drivers covered a distance almost equivalent to that imaginary highway last year without accident. Translated into cold figures, these same Hoosier truck drivers did travel 70,000,000 accident-free miles last year to win for Indiana Motor Traffic Association, for the second consecutive year, the huge silver loving cup donated by American Trucking Associations to the State Association conducting the best safety campaign.

This figure of accident-free miles is astounding in itself. It becomes even more remarkable when one recalls that the state of Indiana last year had one of the three worst accident records in the country. As the *Indianapolis Times* said in a recent editorial—"Indiana may have one of the worst traffic accident records in the country, but it can't be blamed on the truck drivers."

What has IMTA done to aid in bringing this signal honor to a state beset with traffic difficulties?

On January 1, 1935, IMTA trained its safety guns on a field that never before had been faced with an organized safety campaign. The enemy was vulnerable. Our front-line troops, the drivers, were ready and willing to cooperate. Operators recognized the urgent need for such a campaign and wanted to aid in furthering its cause.

A safety committee was appointed, a safety director employed, and the machinery was set in motion. Obviously the important man to drum safety into was the driver. At once IMTA launched on a campaign of education supplementing it with an award system offering an incentive to more careful driving habits.

Monthly bulletins were supplied each man in the campaign. Safety on the highways was brought forcefully to his attention through this medium. In addition to giving driving tips, these bulletins frequently analyzed accidents in which trucks were involved, pointing out mistakes which had resulted in the accidents.

Believing that personal contact was an even better way to reach the drivers, the association executive staff went into the field to address driver meetings, show charts and answer questions. Operators, realizing the benefits of these get-togethers, urged their continuance.

Then came the awards to the men who had earned them. A silver lapel pin, replacing the driver's bronze enrollment pin, was awarded for six months' accidentless driving. A gold pin was presented to those who com-

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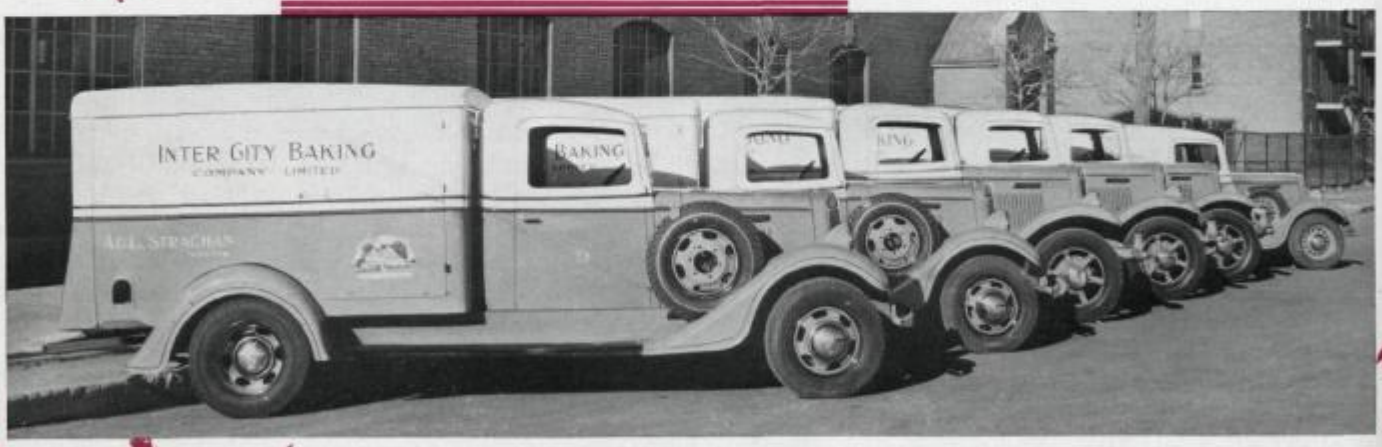
CANADA

This good-looking ambulance is in the Canadian army Red Cross service at Ottawa. The Dominion Parliament building may be seen in the background.

Attractive appearance is combined with dependability and low-cost hauling in this International which began recently what promises to be long-lived service on the King's highways.

The Canadian National Express Company, Hamilton, Ont., employs a large fleet of Internationals. These Model C-35's are recent additions to the fleet.

Hilton's Dairy in Vancouver uses this attractively lettered C-1 pick-up for delivery of bulk produce. It took part recently in a local parade, representing the value of milk products.



The Inter City Baking Company, Limited, Montreal, has entrusted its delivery problem safely to this fleet of six International trucks. Specially built bodies, designed for bakery goods transportation, help to retain the fresh flavor of Inter City's products.

The E. E. Wallace Company, Toronto, placed fourteen International Model C-1 panel trucks on duty a short time ago. Each is specially equipped for the produce business. Drivers present a neat appearance in new uniforms. Right: the attractive fleet and the drivers in front of the Canadian National Exhibition Automotive building.

The NEW INTERNATIONALS

(Continued from page 1)

ment of 213 inches and the engine in the one and one-half-ton models has a displacement of 232 inches. These sturdy, dependable power plants have many of the features of the larger engines including counterbalanced crankshafts, replaceable-shell bearings; full-pressure lubrication; hardened exhaust-valve seat inserts; down-draft carburetion; and oil-bath air cleaners.

Easy handling, safety at all speeds, and sturdy, responsive steering mechanism are especially important in truck operation. In the design of these new trucks International Harvester engineers have given scientific attention to steering and its relation to safety and easy handling. As a result, these new models—due to wide-tread front axles, improved construction, more effective turning ratios, and larger steering wheel diameters—assure exceptional maneuverability and safety at low speed in traffic and high speed on the open highway.

In addition to improved appearance, standardization of body lengths, easier handling, and greater power, many new and important features are incorporated in each of the new Internationals. All models have deeper, heavier frames and even more efficient braking systems than in the past. Front spring-pad capacities have been proportionately increased to provide for the greater proportion of the load now carried by the front axle. Clutch and transmission torque capacities have been increased to match the greater torque of the engines. Helical-gear transmissions, with direct fourth speed and fuel-saving overdrive in fifth provided in the larger models, offer outstanding advantages, especially in long-distance hauling. This type of construction enables the operator to maintain high speed with reduced engine speed and with a consequent saving in fuel and oil and reduced engine wear.

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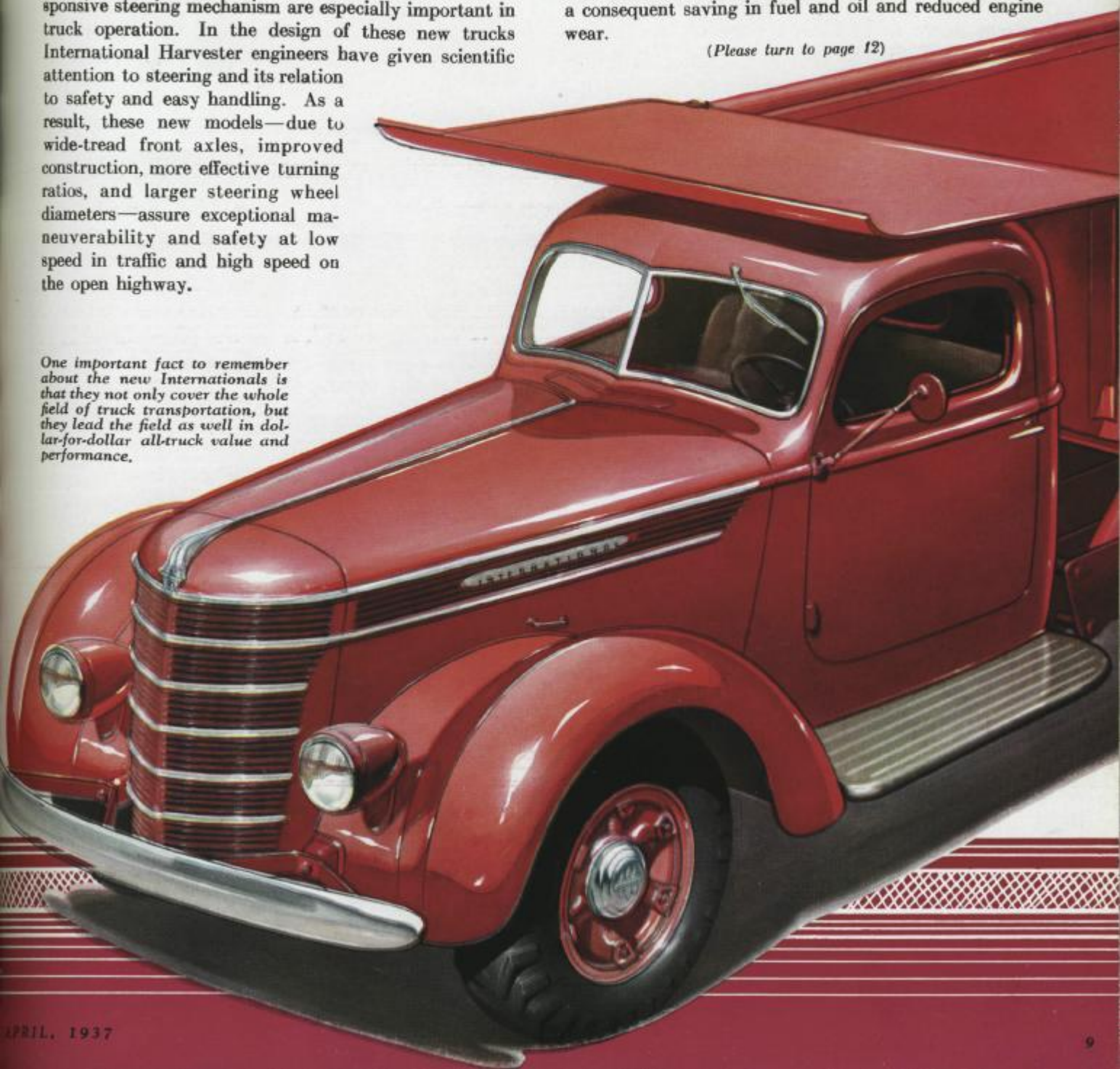


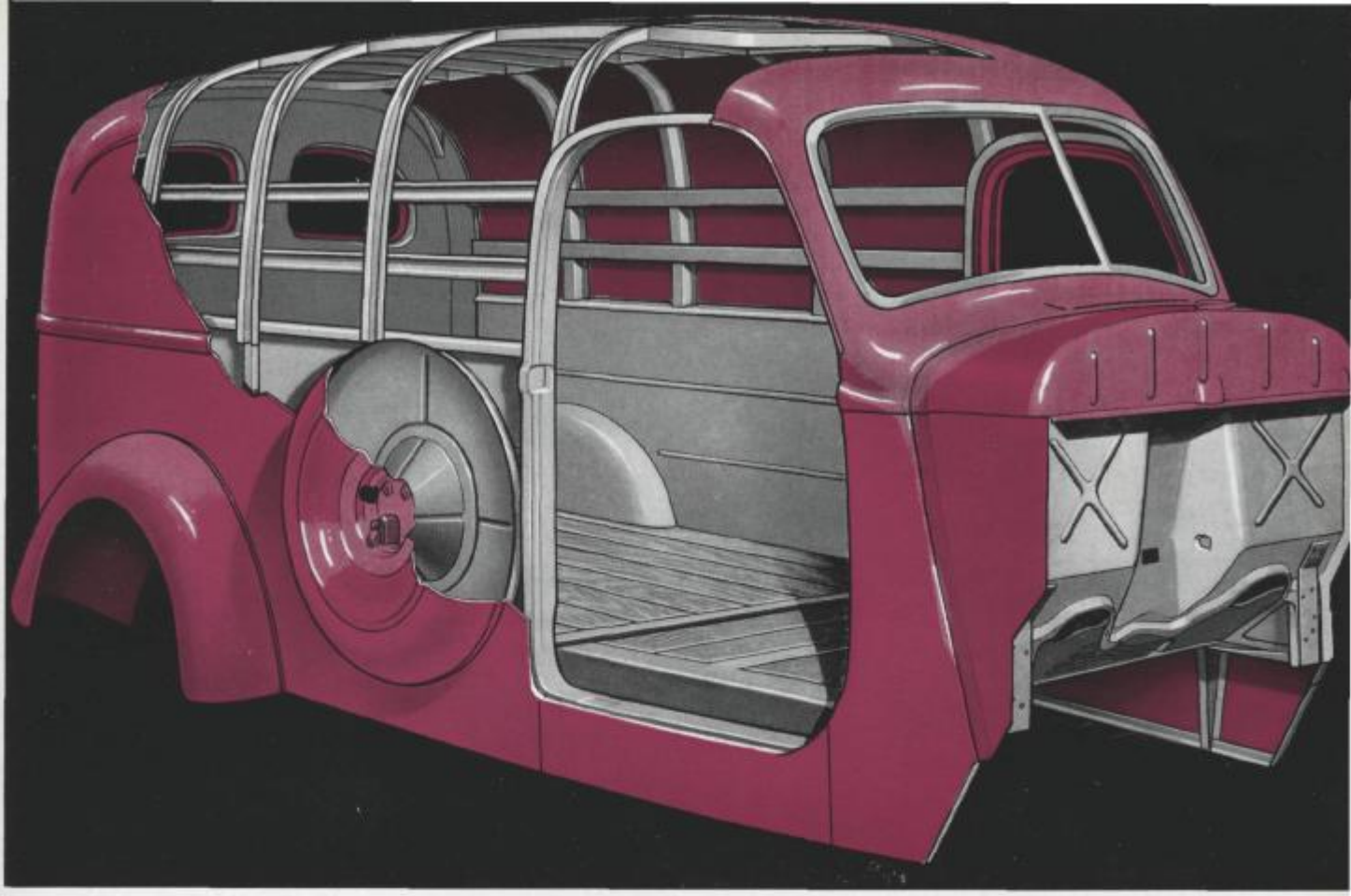
One important fact to remember about the new Internationals is that they not only cover the whole field of truck transportation, but they lead the field as well in dollar-for-dollar all-truck value and performance.

DE LUXE PANEL BODIES

INTERNATIONAL de luxe panel bodies are of large capacity, beautifully streamlined, and rigidly constructed for safety and long life. From sloping, V-type, ventilating windshield to the gracefully designed rear, these de luxe panel bodies present an unusually attractive appearance. Dust shields and unsightly long running boards have been eliminated. Body side panels sweep down to the lower edge of the fenders on a line with the distinctive short running boards. The trim, sweeping lines are further enhanced by the pressed-in belt and panel moldings, which constitute the only trim.

Appearance, as well as utility and passenger-car driving comfort, has been carefully integrated in the design of the panel-body interior. Designed also for efficient loading, these maximum-capacity bodies are available in a choice of attractive colors.

The value of the new styling and utility to owners is tangibly expressed in advertising value and profit-earning ability of the new Models D-2, D-5, and D-15 panel-body units.



STRONG, safe, welded-steel de luxe panel bodies are built like a skyscraper. The cutaway view shows the rigid construction, how the side pillars are welded to the strong roof assembly, the longitudinal steel channel ribs, the pressed-in tire carrier pocket, the cowl and dash assembly, and other details. The same de luxe type body is shown at the left as it appears in the completed Model D-2 panel truck. Through the use of large, one-piece side panels with pressed-in belt and sign panel moldings, the number of parts is reduced and seams are eliminated. A richly finished appearance is thereby attained.

The NEW INTERNATIONALS

(*Continued from page 9*)

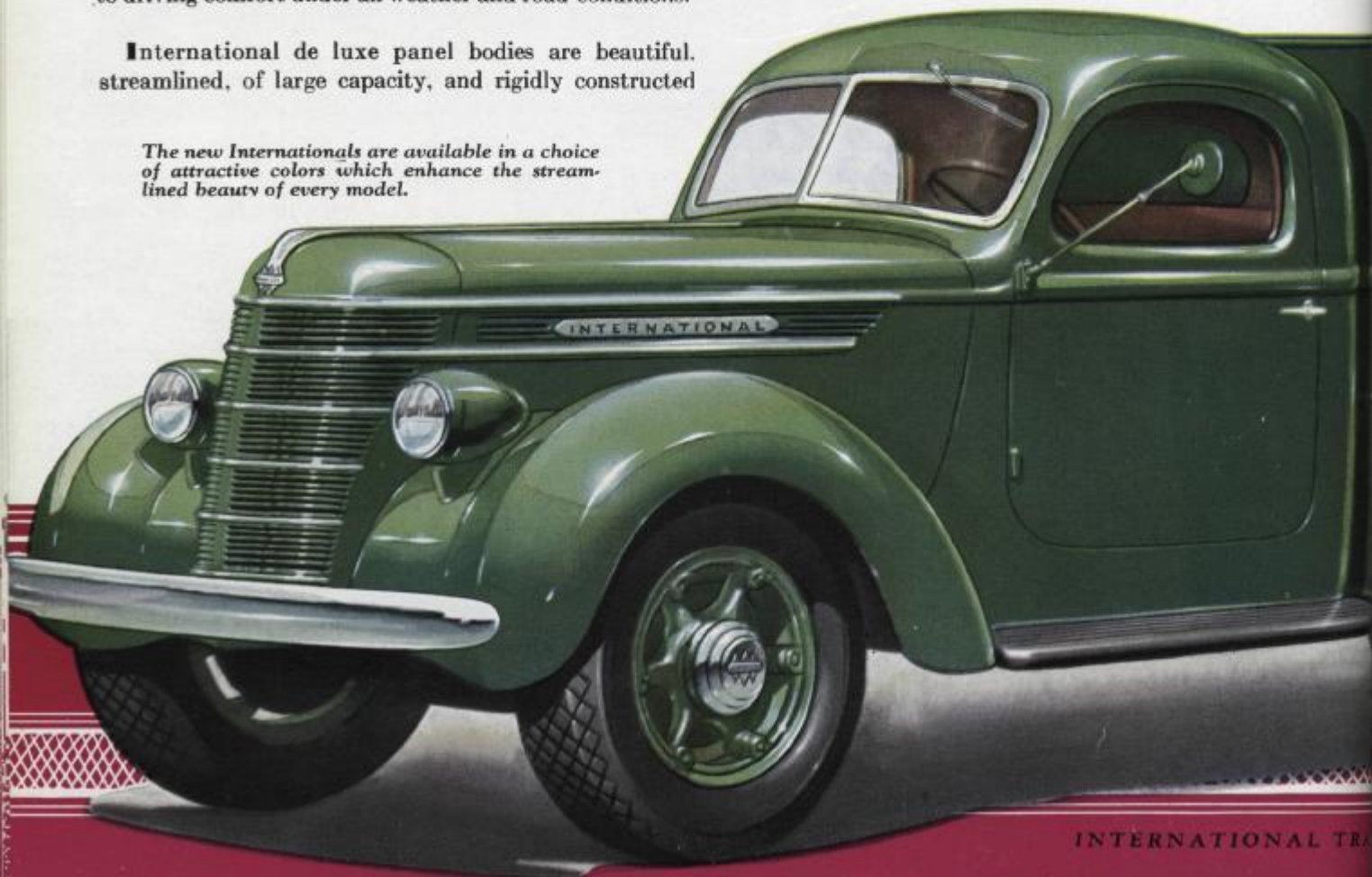
Hydraulic brakes are standard equipment on all International models from the light delivery units to the 4 to 5-ton double-reduction drive Model DR-60. These internal-expanding, self-energizing, two-shoe hydraulic brakes provide maximum stopping ability for heavy loads. Standard equipment on the larger units includes factory-installed booster brakes of the vacuum-suspended type. Air brakes are standard equipment on the Model DR-70 and the larger six-wheel units. They are available on the medium heavy-duty models if desired.

In these new Internationals are other quality features of design such as full-floating rear axles (except in the half-ton models); roller-bearing, anti-friction type universal joints; self-aligning propeller-shaft center bearings in the long wheelbase chassis; and many others.

Safety, long life, attractive appearance, and driving comfort and convenience are highlights in the design of the new International all-steel cabs. Because of the welded, all-steel construction, these cabs offer the utmost in protection for the driver. Ample room, scientifically designed seat and back cushions, insulation against the elements, and provision for proper ventilation contribute to driving comfort under all weather and road conditions.

International de luxe panel bodies are beautiful, streamlined, of large capacity, and rigidly constructed for safety and long life. In these welded-steel bodies large-size stampings are employed to reduce the number of parts, with a corresponding reduction in the number of seams and joints. These bodies are comparatively light but extremely rigid. It is the inside construction—the framework—that determines whether a body will stand up and give long service. International panel body frames are formed with cross sills, side pillars and inner panels, longitudinal channel ribs, roof channel rail, and roof bows flanged, braced, and welded into a rigid unit basically tubular in shape. This follows engineering practices found most efficient and desirable in modern aircraft and streamlined train construction. Designed for efficient loading, these maximum-capacity bodies are available in a choice of attractive colors.

The new Internationals have been styled by skilled designers who have applied the principles of modern automotive streamlining in an effective manner. Simplicity and good taste have been incorporated in every detail of hood, fender, and radiator grille design as well as in the attractive all-steel cabs and panel bodies. Although distinctive beauty has been achieved, there has been no sacrifice either of stamina or accessibility. The long, parallel louvres, sweeping in almost continuous lines around hood sides and grille, are accentuated by the modern, well-spaced trim. The rounded grille contributes to the sturdy all-truck appearance for which Internationals have always been famous.



The new Internationals are available in a choice of attractive colors which enhance the streamlined beauty of every model.

OVERSEAS

Compañia General de Tabacos de Filipinas, the largest Spanish company in the Philippine Islands, operates this attractive International Model C-50 on the Island of Luzon for distributing cigarettes and cigars.

Right: International Model C-1, with pick-up body, passing through the native quarters of Petitjean, near Casablanca, Morocco, North Africa.

Passengers traveling on the South Manchuria Electric Co. buses enjoy comfort and visibility. The beautiful scenery along the route from Port Arthur to Dairen, Manchukuo, can be seen through the glass-covered roof of this International Model C-50.

Below: Svenska Bensin & Petroleum Aktiebolaget B. P., Stockholm, Sweden, employs this International Model C-15 as a service truck.

Below: "The finest trucks on wheels" is what the Sinclair Petroleum Cy. S. A., Brussels, Belgium, says about Internationals. This streamlined Model C-50, equipped with five 1,000 litre aluminum gasoline tanks, is as good as it looks.

Below: Part of the fleet of 10 International Model C-1 trucks in service for the well-known dairy manufacturer, Dag-Ny-TUS, Oslo, Norway.

BURLINGTON *Rolls up* 2,500,000 *Safe Miles* IN 1936

by N. H. SCHMIDT

THE Burlington Transportation Company—a division of the Burlington Railroad—with headquarters at Galesburg, Ill., and branch offices in ten mid-western cities, was accorded national recognition a short time ago when the American Trucking Association presented the company with a safety award.

The award came as a result of safe driving which, in a year, took the fleet of 104 trucks and trailers over 2,500,000 miles without accident.

When Burlington went into the highway motor freight business in 1935, E. Watson, former owner and manager of the Merchants Cartage Co., in Galesburg, was placed in charge of freight operations. It was under his leadership that the outstanding safety record was achieved.

Through purchase and consolidation the former Merchants Cartage Co.; the Peterson Truck Lines, Corning, Iowa; and the Corn Belt Transportation Co., Ottumwa, Iowa, became the nucleus of the company which now links many points in four states over a highway network of 2,100 miles. Branches located in Chicago, Rock Island, Peoria, and Kewanee, Ill.; Ottumwa, Burlington, and Corning, Iowa; St. Joseph and Kansas City, Mo.; and Omaha, Nebr., serve as local freight concentration points, and through traffic division centers.

Schedules are maintained with precision. Freight leaving Chicago arrives in Omaha the second morning. Each afternoon at 3:30 the west-bound truck leaves Peoria and proceeds north to the Galesburg concentration terminal, which it reaches three hours later. At 7:30 this unit starts west. After a 381-mile run it rolls into Kansas City the next morning at 10:35.

Maintenance shops are located in Kewanee, Ottumwa, Kansas City, Galesburg, Rock Island, and Omaha, in which fourteen full-time mechanics are employed. These points were chosen because the mileage between them would allow oil changes, greasings, servicing, and inspection at proper intervals.

Each truck-tractor, assigned to one driver as much as possible, is worked only within its own division. This facilitates inspection and maintenance work, and aids the safety program. Each driver is directly accountable at all times for the condition of his unit.

As a part of the preventive maintenance program, oil is changed every 1,200 miles, and each outfit is thoroughly greased at the completion of every round trip.

Regardless of weather conditions, each piece of equipment is washed on schedule and given a complete mechanical check each week.

Precautions in maintenance have proved to be a safety factor of the first order. As a result, there has been no accident due to faulty equipment. For emergency repairs and adjustments while enroute the facilities of International dealers are drawn upon.

Burlington's campaign for safety, under Mr. Watson's direction, begins when a driver applies for a job. Each applicant must be at least twenty-one years old and

Three International truck-tractor and trailer trains of the 104 unit Burlington Transportation Company fleet.

must have had not less than three years experience in driving truck-tractor and semi-trailer units with some other long-distance carrier. Then, if his record conforms with Burlington's standards of morals and education, he must pass a thorough medical examination. He is then required to take an examination on road rules and regulations, and if he passes, is given a probation period as a student driver. Only after this period is he allowed to join the ranks of the 118 drivers responsible for freight movements of the Burlington lines, and with them, his education in safety is continued as long as he stays with the company.

Each driver—all of whom are bonded—is assigned a truck for which he is responsible. Every day when he starts work, he must sign a receipt for his truck after he has checked the condition of the lights, brakes, horn, windshield wiper, tires, flares, jacks, spare light bulbs, and tools. From that time until his return the driver accepts sole responsibility for the condition of the unit.

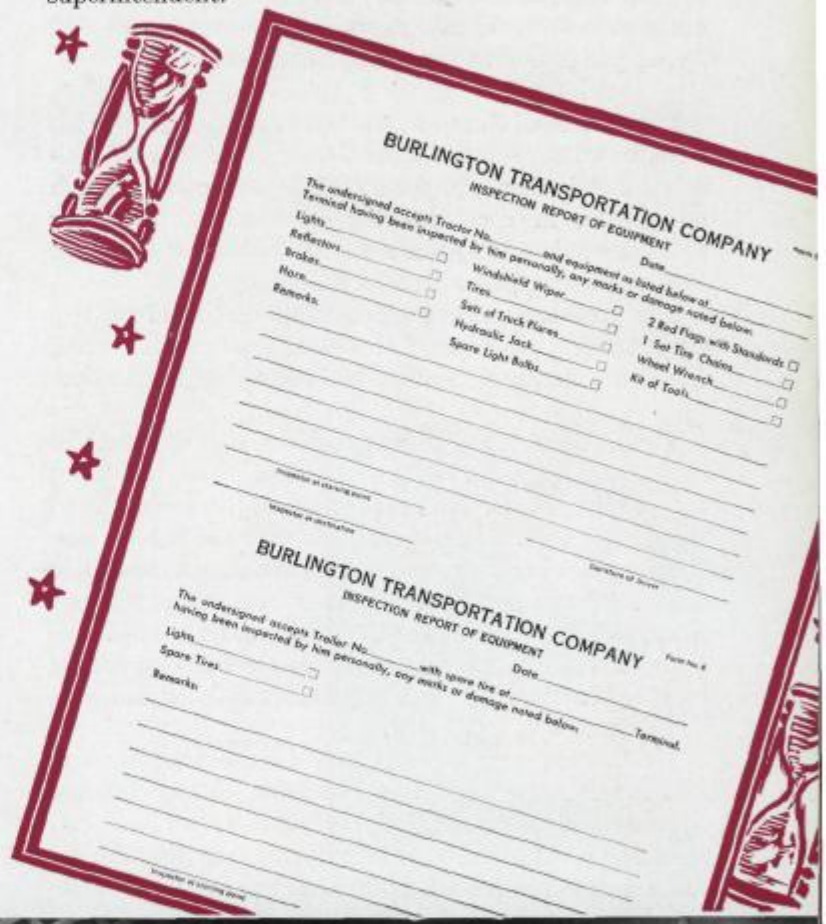
Distances between divisions range from 200 miles up to the longest run of 258 miles, which is the run from Galesburg to Corning, requiring nine hours and thirty-five minutes. At the end of each trip drivers get eight hours layover. Six trips a week is the maximum permissible. When vacancies occur on local runs, long-distance drivers, if they choose, may take them.

All trucks are governed to a top speed of 35 miles an hour. Every stop enroute is scheduled, even to meal stops. Locked recording charts are carried in the cab of each truck, and all stops and time enroute are automatically recorded. Only one man at each division point has access to these records. Complete stops are made at all railroad crossings.

All highway hauling units, including both tractor and trailer, are equipped with air brakes. An added safety measure is the automatic trailer air-brake setting device which engages when truck-tractor and trailer become uncoupled in travel.

Plans are being rushed for a new 276 by 140-foot terminal in Galesburg which will accommodate 28 trucks at an inside loading platform at one time. The new building will contain shops with pits, overhead cranes, and all the latest machinery, and will include a large parts stockroom, general offices, and a freight house with warm and cold rooms for perishables. Trackage for four freight cars also will be provided.

Executives, in addition to Mr. Watson, are: Walter Hitchin, general freight agent, Galesburg; H. M. Peten, regional manager, Ottumwa, who handles the area west of Burlington; and Lloyd LaGrow, Galesburg shop superintendent.



BURLINGTON TRANSPORTATION COMPANY
INSPECTION REPORT OF EQUIPMENT

The undersigned accepts Tractor No. _____ and equipment as listed below at _____ Terminal having been inspected by him personally, any marks or damage noted below.

Date _____

Lights _____ ☐
Reflectors _____ ☐
Brakes _____ ☐
Horn _____ ☐
Remarks _____ ☐

Windshield Wiper _____ ☐
Tires _____ ☐
Sets of Truck Flares _____ ☐
Hydraulic Jack _____ ☐
Spare Light Bulbs _____ ☐

2 Red Flags with Standards ☐
1 Set Tire Chains _____ ☐
Wheel Wrench _____ ☐
Kit of Tools _____ ☐

Inspector at starting point _____
Inspector at destination _____
Signature of Driver _____

BURLINGTON TRANSPORTATION COMPANY
INSPECTION REPORT OF EQUIPMENT

The undersigned accepts Trailer No. _____ with spare tire at _____ having been inspected by him personally, any marks or damage noted below: _____ Terminal.

Date _____

Lights _____ ☐
Spare Tires _____ ☐
Remarks _____ ☐

Inspector at starting point _____

To the right above is a reproduction of Burlington's inspection of equipment report form which bears inspector's and driver's signature at start and terminus of each trip of each unit.

A view of the inside loading dock at Galesburg which houses six truck-tractors and trailers at a time. Plans are now under way for enlarging sheltered loading facilities at this terminal.

Salmon River HIGHWAY BUILDER USES INTERNATIONALS

by EDWIN A. HUNGER

E. C. HALL, of Eugene, Oregon, who had the contract last season for a $240,000 reconstruction surfacing and stock-piling project on the interesting new scenic Salmon river highway, or Salmon river cut-off, as it is frequently called, made extensive use of International motor trucks and Diesel power units to speed up the work.

In the fleet of eleven motor trucks utilized on the job were three heavy-duty Model C-55-F International dual-drive six-wheelers equipped with 8-yard bodies, which are shown in accompanying illustrations, and four Internationals of 1½-ton capacity with two-speed rear axles, and equipped with 3-yard bodies.

The crushing and screening plant employed on this project was operated by four Diesel power units, two of which are shown in another accompanying illustration.

The Salmon river highway is designated as Route 18 in the Oregon State highway system. The 13.5 miles covered by E. C. Hall's contract is between Grand Ronde and Otis, where it connects with the famous new Oregon coast highway, which hugs the rugged coast line from border to border and passes over six new large-sized bridges, including the Coos Bay bridge. The latter bridge is 5,338 feet long and it was erected at a cost of $2,215,000. The Yaquina Bay bridge is 3,260 feet long and its cost was $1,335,000.

The Salmon river highway provides the shortest route between Portland and the Tillamook county beaches at Neskowin, Oceanlake, Delake, Nelscott, and Newport. This new coast highway is 28 miles shorter than the old route, hence the term Salmon river cut-off. Construction has been financed with Forest highway funds and has been under the supervision of the Bureau of Public Roads of the United States Department of Agriculture. It was financed thus because the section is included in the Oregon National Forest highway system.

The Salmon river cut-off project is a notable example of the stage-construction policy advocated by the Bureau of Public Roads. By this policy effort is first concentrated on getting a road through quickly and thus secure the benefits from the investment as soon as possible. To accomplish this, economies in initial construction are practiced, structures often are temporary, and surfacing frequently at first is of low type or in certain sections may be entirely omitted.

Thus, when the Salmon river cut-off was proposed, this stage-construction policy was adopted, and the first

This illustration shows two of the four International Diesel power units which supplied all of the power required to operate the rock-crushing and screening plant.

step, begun in 1927, was to build a graded dirt road of minimum width. The object, of course, was to get the road itself through as quickly as possible. In all the initial construction work, however, final alignments and grades were considered in the plans so that maximum salvage in the future construction stages could be obtained. In subsequent years surfacing and grading contracts were awarded. In September, 1935, the final step in the construction was started, all sections not previously built to ultimate standard were widened and all surface courses were laid over the old surfacing to provide a sub-base 17 inches thick of water-bound macadam which is to support a 3½-inch bituminous plant-mix pavement.

The principal items covered by E. C. Hall's contract were as follows: fine-grading subgrade and shoulders, 13.53 miles; special crushed rock bottom course, 90,000 tons; top course, 20,000 tons; leveling course, 7,000 tons; salvage of surfacing, 3,500 cubic yards; and supplemental crushed rock, 32,500 tons.

The sub-base was built up in several layers as follows: first, a bottom 6-inch layer of 3-inch rock; second, a ¾-inch layer of ¾-inch key rock; third, another 6-inch layer of 3-inch rock; fourth, another layer of ¾-inch key rock; and finally a top layer of ¾-inch rock down to dust. Each layer of course was rolled, two 10-ton gas rollers being used. The finer layers were processed with water and blade, and for this work two 10-foot blades and a 2,900-gallon water tank were used. The 3-inch rock was hauled only in the six-wheel trucks and was spread evenly by means of a spreader box which was hitched to the rear of each truck when being spread.

Rock for sub-base was crushed in a plant located on the project, and rock was obtained from a quarry immediately adjoining. The plant was operated 21 hours a day with three 7-hour shifts. The output was 2,500 tons a day. The plant consisted of a 15 x 38-inch jaw crusher operated by one of the Diesel power units, an 8-inch gyratory crusher operated by another Diesel unit, and the recrusher consisting of a set of 40 x 20-inch rollers powered by the 100-horsepower Diesel. The fourth International Diesel power unit operated a 50-kilowatt generator, which provided power for individual motors to drive all conveyors and screens, a compressor, and a complete electric-lighting system.

The rock-crushing and screening plant on the bank of the Salmon river, Oregon, which was used by Contractor Hall in the Salmon river cut-off road-building project. Four International Diesel power units provided all of the power required to operate crushers, conveyors and screens, a compressor, and a complete electric-lighting system.

Heavy-duty International dual-drive six-wheelers, of which this is one, equipped with large dump bodies, supplied dependable low-cost transportation for Contractor Hall on the Salmon river cut-off project in Oregon.

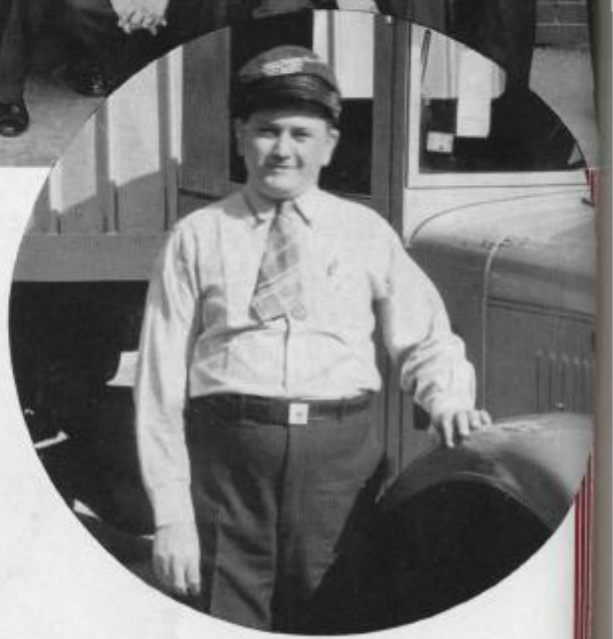
For road building in the rugged regions of the Northwest and elsewhere, transporting large loads of heavy materials requires sturdy, powerful, and dependable trucks backed by readily accessible genuine parts and service facilities. That is why E. C. Hall, well-known contractor, entrusted his hauling on the Salmon river cut-off to heavy-duty, four-wheel drive, six-wheel Internationals.

I DRIVE *Safely*

Jessie J. LeBlanc, driver for T.S.C. Motor Freight Lines, Inc., New Orleans, La., has driven an International truck more than 400,000 miles without accident over his southwest Louisiana route.

In ten years J. E. Smith, of Jordan, Minn., has d International trucks more than 300,000 miles wi accident. "The driver who uses common sens never gets in a hurry has discovered the secr safe driving," says Mr. Smith.

Mandel Brothers, prominent Chicago retail merchants, are proud of the 1936 no-accident record established by the ninety-six drivers of their predominately International fleet, in 1936. In the accompanying illustration are the 26 uniformed drivers who operate out of Mandel's 48th Street station. A photograph of Mandel's remaining 70 drivers, employed at Crawford Avenue terminal, was reproduced in the "I Drive Safely" page of the January, 1937, issue of this publication. Individuals in this picture are, left to right, in front: Messrs. Berblinger, Reid, Gross, Stewart, Andrews, Brandt, and Musser. Standing: Raetz, Burgess, Topolski, Johnson, Ludolph, Gay, Kurth, McGrath, Benes, E. Anderson, Knox, Bingenheimer, R. Anderson, Franzen, Mulrenin, Stabler, French, Davidson, and Marquis.



W. A. Orrell, ace driver for Silver Fleet, Memphis, Tenn., has driven International trucks more than two million miles in seventeen years without accident. Mr. Orrell's splendid record has received recognition from safety, industrial, and commercial organizations, and prominent individuals throughout the country.

Recent meeting of U. S. Truck Lines Safety Council attended by the entire staff of managing officials of the companies and divisions comprising U. S. Truck Lines, Inc. William Lawrence, the author of this article, is shown at the head of the table, presiding over the meeting.

Below: A reproduction of the gold pin awarded together with a certificate by the Safety League to drivers who complete one-year's service without chargeable accident.

U★S★ TRUCK LINES *Standardizes Accident-Prevention* PROGRAM

by WILLIAM LAWRENCE
Director of Safety, U.S. Truck Lines, Inc.

IT became our task several years ago to develop a unified and comprehensive safety program to cover the fleet operations of eighteen divisions and subsidiaries of our company.

Six distinct types of hauling were represented—namely, local cartage, leased fleet operations, local parcel delivery, transportation of new automobiles, common carrier motor freight service, and tank trucks in gasoline transportation. Each type of hauling is handled as a division of our program, which follows the units over more than thirty-six million miles a year, and which is founded upon the following basic factors:

First: Selection, training, and supervision of drivers.

Second: Close study of and prompt hearings on each accident.

Third: Reward for safe driving and penalty for carelessness and negligence.

Fourth: Constant emphasis on safety.

Fifth: Regular inspection and maintenance.

Our program is vested in the U. S. Truck Lines Safety League whose membership is made up of virtually all employes. The governing body is the Safety League Council comprised of officials of the company and officers of affiliated companies and their operating departments.

In all our work on safety we strive to keep the individual driver and his problems uppermost in our minds, because it is largely what he does while at the controls that determines the course of our business.

Hiring only good drivers is, as every fleet operator knows, no easy task. Everyone who applies for a


Gold Safety Award
CERTIFICATE
This certifies that _____ an employer of _____ has been awarded the Gold Safety League [redacted] of the U. S. Truck Lines Safety League in recognition of one year's continuous record of safe driving.
U. S. TRUCK LINES SAFETY LEAGUE

A facsimile of the certificate awarded with gold Safety League insignia to drivers for one year of safe driving.

driver's job with us is subjected to a thorough physical examination by our doctors. All references and other reliable sources of information are consulted and the man's record well established. If the applicant is of the right age, is physically fit, has a good record, and is of the right type, his application is accepted.

Then comes a course of training which includes all of the phases of his work. He is given a book of rules which govern the conduct of the work, including handling of equipment with which he is to be entrusted. This book sets forth clearly those practices which are looked upon favorably and those which are condemned. Rewards and penalties are definitely stated. No cards are held back. The newcomer has them all before him at the start. From then on we make it our business to see that he follows instructions.

When the driver becomes involved in an accident the Safety League Council moves in in no uncertain way. The whole incident is re-enacted by miniature vehicles in accordance with sketches and blueprints which record the course of the vehicles involved. The whole story is built up from the driver's own written report; the information gained from witnesses, if any; and the assertions of others directly involved. A hearing is then called at which the driver is quizzed as he would be by a regimental or garrison court-martial and he is subsequently exonerated or penalized according to his innocence or guilt. These meetings are presided over by the manager of the affiliated company or division, and present also are the company claim agent and insurance representative.

For driving without chargeable accident the league awards its members as follows: first, a silver pin of unusual design, accompanied by a letter of citation, at the end of the first six months; second, a gold pin of the same design and a certificate at the conclusion of the first year; third, at the close of the second year of continuous safe driving service at the wheel a gold watch, engraved with driver's name and the emblem of the league, and a certificate.

To keep the subject of safety constantly in the forefront of every driver's mind the company publishes *Cross Roads*, an eight-page, monthly, tabloid-size newspaper. In *Cross Roads* we strive to discuss only such subjects as will interest readers, who are mainly our drivers. We try to maintain a personal touch in feature articles and columns, news articles, and in all of the illustrations accompanying them. *Cross Roads* is being read and we know also that interviews, special articles, editorials, and quarterly safety report tabulations are helping to improve the driving practices of our men.

Additional educational activity on safety results from banquets of the league, which are held periodically for making awards to drivers. Speakers are prominent authorities on safety.

In the meantime, inspection and maintenance of equipment are followed with constant precision and vigilance to make sure that all equipment can be relied upon while in operation. A newly established department of preventive maintenance has standardized all inspection and repair work policies and practices in company and division garages from Chicago east. We anticipate that the work of this new department will have an important bearing on safety by eliminating the possibility of failure of equipment while enroute.

In brief, then, that is the outline of our program stripped of mention of the detail work involved.

Seventy Million ACCIDENT-FREE MILES

(Continued from page 7)

pleted a year without mishap. A two-year pin is being designed now. Even though the monetary value of these awards is not great the drivers value them highly.

In October of 1935 ATA flashed the good news that Indiana Motor Traffic Association had won the first leg on the cup. This added fuel to a rapidly increasing fire. Operators eagerly joined the safety parade.

Increased demands on the executive staff for personal appearances throughout the state, not only before truck groups, but before local clubs, schools, and civic organizations presented a transportation problem.

This was solved by the acquisition of two vehicles. An all-white International panel truck equipped with flags, flares, fuses, fire extinguisher, first-aid kit, and roll-away hospital cot was put in service March 1, 1936. A running mate was supplied the International in July with the purchase of a passenger car similarly equipped with the exception of the cot. Both vehicles carried the association motto emblazoned across the back, "Drive Safely—It Can Be Done."

Both the truck and the passenger car have carried the message of highway safety from one end of the state to the other.

Last October ATA contest judges again pronounced the IMTA safety campaign the best of its type in the United States; Indiana had another leg on the cup.

What has all this meant to the trucking industry in the Hoosier state, to the operator and to the driver?

Early in the campaign the association directors recognized the safety work as an excellent method to build public good will. Newspapers had been bitter; the public in general condemned big trucks as a menace to safety.

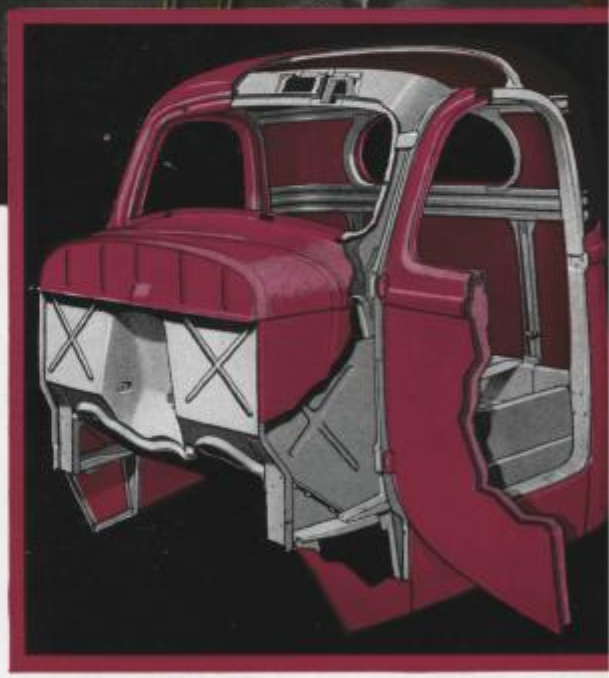
Now the picture is reversed. Many newspapers praise the efforts of the industry to promote safety. A goodly portion of the public has become sympathetic with the truckmen's attempts to reduce accidents. Favorable legislation has been enacted in some instances because public officials have come to realize that the industry is trying hard to better existing highway conditions.

Many operators have enjoyed lower property damage and public liability premiums and reduced maintenance costs as a result of the campaign. The drivers now recognize the heavy responsibility placed upon them and have come to look upon driving a truck as a profession and not just another depression job.

Much remains to be done. Public opinion is fickle and the trucking industry cannot afford to relax its efforts. It must now broaden its campaign to include the private passenger car group. Unless all highway users are made to realize the importance of safety as truck operators have, none can feel secure.

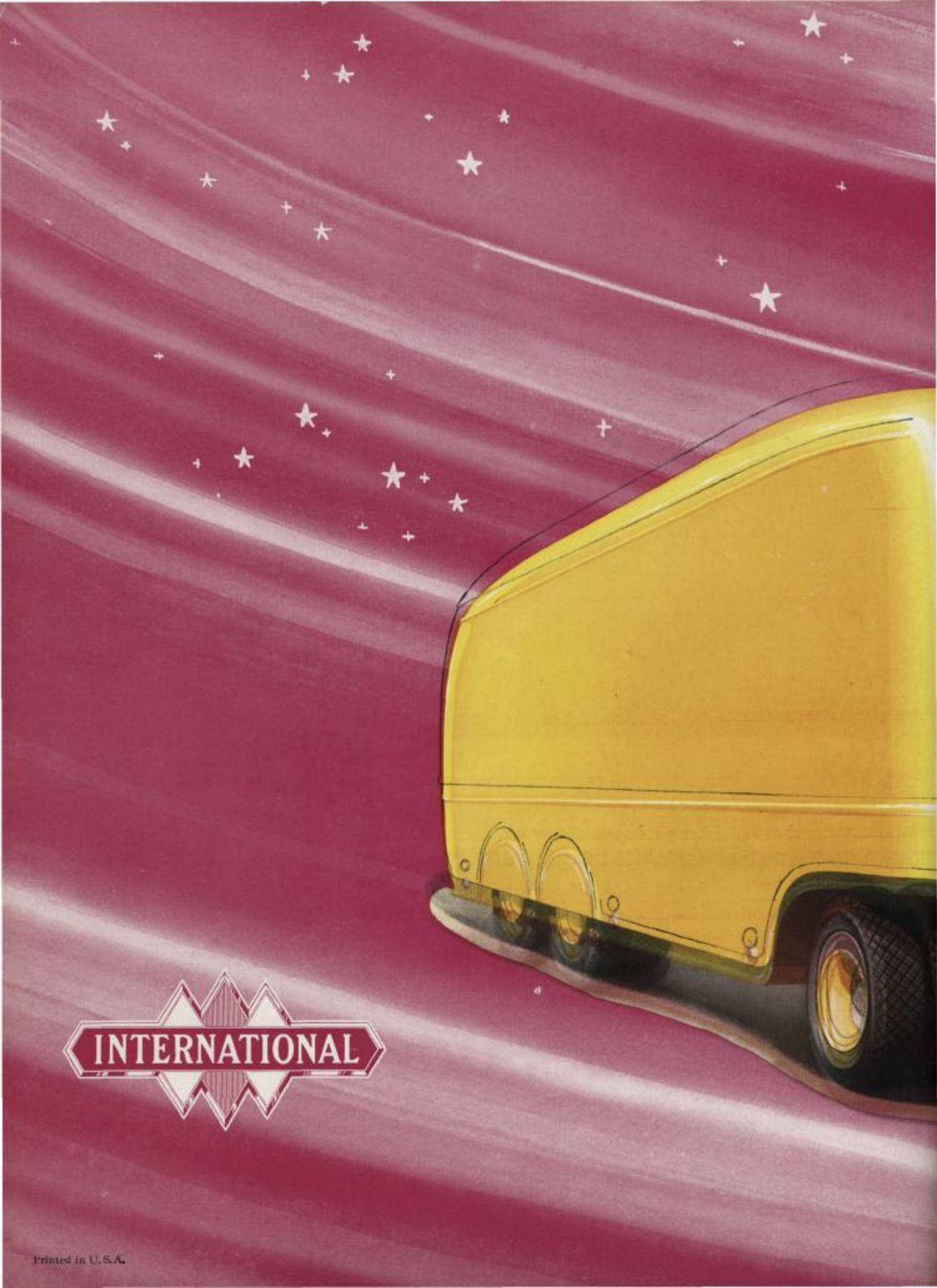
Indiana naturally wants to win that cup another year for it then becomes a permanent possession. But above that, the trucking industry of Indiana wants to make its highways a safer and saner place to drive. We cannot stand on past achievement. This old world recognizes only continued progress.

NEW International all-steel cabs have many desirable features. Tireless research and experimentation in the laboratory and on the proving ground have resulted in an outstanding product, artistically styled and finished inside and out, and combining roominess and comfort with good visibility and distinctive appointments. Seat and back cushions are deeply upholstered and are adjustable. Wide doors permit easy entrance and exit, and all controls and instruments are located for the convenience of the driver. Rubber mountings cushion the rigid, all-steel cab against the flexing and weaving of the chassis frame on rough and uneven highways.



The large view of the beautiful cab interior is of the de luxe cab, which has safety glass throughout, brown Spanish grain upholstery, a ventilating-type rear window, large package compartment with lock, and many other features. The sectional view shows the all-steel, reinforced, welded construction.

INTERNATIONAL *All-Steel Cabs*



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